

What is claimed is:

1. An apparatus for forming miniature tablets comprising:
a die having a bore therethrough, said bore having a diameter of less than about 3 mm;
5 a lower punch having a diameter of a punch stem slightly smaller than said bore for allowing said lower punch to fit snugly in said bore;
an upper punch having a diameter of a punch stem substantially the same as the diameter of the lower punch; and
a means for providing a predetermined amount of compression force
10 between said lower punch and said upper punch, wherein said compression force is in a range of about 50 Newtons to about 2,000 Newtons.
2. The apparatus of claim 1 wherein said compression force is in a range of about 50 Newtons to about 500 Newtons.
3. The apparatus of claim 1 wherein said means for providing a
15 predetermined amount of compression force comprises an adjustable ramp and means for controlling the height of said ramp, wherein said lower punch rides up said adjustable ramp for providing the compression force.
4. The apparatus of claim 3 further comprising an upper cam including a ramp, wherein said upper punch rides down said ramp of said upper cam for
20 providing the compression force.
5. The apparatus of claim 1 wherein said punch stem of said lower punch comprises a reinforced body portion at an upper end of said lower punch and said die comprises a counterbore positioned below said bore, said counterbore receiving said reinforced portion of said lower punch during
25 application of said compression force.
6. The apparatus of claim 5 further comprising a fill cam for pulling down said lower punch during filling of said die, said fill cam comprising adjusting means for pulling punch stem of lower punch downwardly a predetermined amount such that said punch stem of said lower punch is retained in said bore.

7. The apparatus of claim 6 wherein said adjusting means for said fill cam comprises an aperture positioned at a distance D_1 from a bottom edge of said fill cam.

8. The apparatus of claim 6 further comprising a pull down cam for
5 pulling down said lower punch after filling of said bore, said pull down cam comprising adjusting means for pulling punch stem of lower punch downwardly a predetermined amount such that said punch stem of said lower punch is retained in said bore.

9. A method for forming a miniature tablet in a tablet press
10 comprising:

a die having a bore therethrough, said bore having a diameter of less than about 3 mm, a lower punch having a diameter of a punch stem slightly smaller than said bore for allowing said lower punch to fit snugly in said bore, an upper punch having a diameter of a punch stem substantially the same as the diameter
15 of the lower punch comprising the step of:

providing a predetermined amount of compression force between said lower punch and said upper punch, wherein said compression force is in a range of about 50 Newtons to about 2,000 Newtons.

10. The method of claim 9 wherein said compression force is in a range
20 of about 50 Newtons to about 500 Newtons.

11. The method of claim 9 wherein said step of providing a predetermined amount of compression force comprises an adjustable ramp and means for controlling the height of said ramp, wherein said lower punch rides up said adjustable ramp for providing the compression force and an upper cam
25 including a ramp, wherein said upper punch rides down said ramp of said upper cam for providing the compression force.

12. The method of claim 1 further comprising the step of:
providing said punch stem with a reinforced body portion at an upper end of said lower punch and said die comprises a counterbore positioned below said
30 bore, said counterbore receiving said reinforced portion of said lower punch during application of said compression force.

13. The method of claim 12 further comprising providing a fill cam for pulling down said lower punch during filling of said die, said fill cam comprising adjusting means for pulling punch stem of lower punch downwardly a predetermined amount such that said punch stem of said lower punch is retained
5 in said bore.

14. The method of claim 12 wherein said adjusting step comprises adjusting means for said fill cam comprises an aperture positioned at a distance D_1 from a bottom edge of said fill cam.

15. The method of claim 13 further comprising the step of providing a
10 pull down cam for pulling down said lower punch after filling of said bore, said pull down cam comprising adjusting means for pulling punch stem of lower punch downwardly a predetermined amount such that said punch stem of said lower punch is retained in said bore.

16. A miniature tablet formed in accordance with the method of claim 9.

15 17. An apparatus for comprising product material into tablets, turrent means having means on its periphery for receiving dies which are to be filled with product material prior to compression, dies positioned in at least a portion of said means for receiving dies, said dies positioned between opposed punches, said opposed punches compressing the product material into tablets, the improvement
20 comprising:

means for providing a predetermined amount of compression force between said lower punch and said upper punch, wherein said compression force is in a range of about 50 Newtons to about 2,000 Newtons.

18. A miniature tablet comprising a compressed shaped body having a
25 size of 3 mm or less being prepared at a compression force in the range of about 50 Newtons to about 2,000 Newtons.

19. The miniature tablet of claim 18, the size being 2 mm.

20. The miniature tablet of claim 18, the size being 1.5 mm.

21. The miniature tablet of claim 18, the size being 1 mm.

30 22. The miniature tablet of claim 18, the size being 0.5 mm.

23. The miniature tablet of claim 19 wherein said miniature tablet comprises one or more drug actives.

24. An apparatus for forming miniature tablets comprising:

5 a die having a bore therethrough, said bore having a diameter of less than about 3 mm;

a lower punch having a diameter of a punch stem slightly smaller than said bore for allowing said lower punch to fit snugly in said bore;

an upper punch having a diameter of a punch stem substantially the same as the diameter of the lower punch;

10 a means for providing a predetermined amount of compression force between said lower punch and said upper punch, wherein said compression force is in a range of about 50 Newtons to about 2,000 Newtons; and

a plurality of cycles of tablet fill areas, weight adjustment areas, pull down areas, tablet compression areas and ejection areas.

15 25. The apparatus of claim 24 wherein a diameter of said upper punch and said lower punch is in the range of about 5 mm to about 7 mm.

26. An apparatus for testing strength of a miniature tablet comprising:

a base arm having an aperture thereon for receiving said tablet;

a press arm contacting said tablet; and

20 means for monitoring force applied by said press arm.